

ABSTRACT

The invention relates to laser engineering and fibre optics. The inventive device for protecting fibre lines against destruction thereof by laser radiation is embodied in the form of a section of an optical fibre which comprises the cladding (6) and the core (7) thereof. The position (8) indicated dashed lines which show the position of the field of optical fibre mode. The distance between said dashed lines is equal to the diameter (D) of the field of light-guide mode. The position (10) indicates the section of the light-guide having the reduced diameter of a reflecting cladding. Said device operates as follows: a pressure of 10^4 atm. is produced by a high temperature in the core (7) during the propagation of an optical discharge wave. The pressure of 10^4 atm. is close to the strength limit of the optical fibre material heated by the optical discharge, that results in the stopping of the optical discharge wave. For this reason, the fibre lines are provided with at least one section of the light-guide, which has a reduced thickness fused quartz cladding and undeformed core.